

## Claims

1. Low reference voltage source, whereas the reference voltage  $V_r$  is temperature independent, comprising a low voltage- $V_{PTAT}$  source, the voltage  $V_{PTAT}$  being proportional to the absolute temperature,

characterized in

that it comprises a voltage-to-current converter (VCC), comprising the low voltage- $V_{PTAT}$  source and a resistor ( $R$ ) and a current  $I$  at its input across a diode element ( $t$ ) produces a control potential  $V$ , the temperature characteristics of contain the latter from the quotient  $V_{PTAT} / R$  between the voltage  $V_{PTAT}$  and the resistance of the resistor ( $R$ ),

that a first current generator ( $t_1$ ) and a second current generator ( $t_2$ ), both being controlled by the control potential  $V$ , generate a first current  $I_1$  and a second current  $I_2$ , respectively, the temperature characteristics of which include the temperature characteristics of the said quotient  $V_{PTAT} / R$ ,

that the first current  $I_1$  is conducted to a first terminal (X) on a first connection of a composition of series connected first resistor ( $R_a$ ) and a second resistor ( $R_b$ ), a second connection of said composition being grounded,

that a transistor ( $T; T'$ ) is diodelike forward connected between the first terminal (X) and the ground,

that the second current  $I_2$  is conducted to a second terminal (Y) on a common connection (Z) of the first resistor ( $R_a$ ) and the second resistor ( $R_b$ ),

that the reference voltage  $V_r$  is tapped from the common connection (Z) of the first resistor ( $R_a$ ) and the second resistor ( $R_b$ )

and that the first resistor ( $R_a$ ) and the second resistor ( $R_b$ ) are manufactured in the n-well technology in the same way as the resistor ( $R$ ) within the voltage-to-current converter (VCC).

2. Low reference voltage source as recited in claim 1, characterized in  
that an emitter of the vertical bipolar pnp transistor (T) is connected to the first terminal (X), the collector and the base of which are grounded.
3. Low reference voltage source as recited in claim 1, characterized in  
that between the first terminal (X) and the ground a MOS transistor (T') is connected like a diode.
4. Low reference voltage source as recited in claim 2 or 3, characterized in  
that the second current I2 is conducted to the second terminal (Y') which is a sliding terminal on the second resistor (Rb).
5. Low reference voltage source as recited in claim 4, characterized in  
that the first current generator (t1) and the second current generator (t2) are selected so that the second current I2 exceeds the first current I1.
6. Low reference voltage source as recited in claim 5, characterized in  
that the first and the second current generators (t1, t2) are forward connected MOS transistors.